

REMARKS

Claims 1-31 and 37-39 are pending in the application. Claims 1 and 26 were amended to more particularly point out and distinctly claim the present invention. Claims 37-39 were added to further define the present invention.

No new matter was entered. The new claim limitations in claims 1, 16 and 37-39 are fully disclosed in the figures (see exemplary N-well 304 in Fig. 3) and described in the specification (see the exemplary description of N-well 304 in paragraph [035] spanning pages 9-10 of the specification).

Claim Objections

Claim 26 was amended to address the claim objection. Accordingly, withdrawal of the claim objection is respectfully requested.

Prior Art Rejections

Claims 1-4 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,348,724 (Koomen et al.).

Claims 1-3, 15 and 26 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,566,715 (Ker et al.).

Claims 4-14 and 27 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ker in view of U.S. Patent No. 5,637,901 (Beigel et al.).

For at least the reasons set forth below, withdrawal of all outstanding rejections as they relate to the amended claims is respectfully requested.

1. Patentability of independent claims 1 and 26 over Ker '715

Amended claims 1 and 26 recite, in part, the following limitations:

a deep well formed in the substrate that physically isolates the substrate from at least the second well (claim 1)

a deep well formed in the substrate that physically isolates the substrate from the first, second, and third wells (claim 26)

Referring to exemplary Fig. 3, one purpose of the deep well is to produce an isolated P-well 310. (Absent the deep N-well 304, P-well 310 would be connected to the P-substrate 302.) An isolated P-well can be a floating P-well, thereby creating a floating base. This enhances the turn-on efficiency of the bipolar structure.

In contrast to amended claims 1 and 26, Ker '715 does not have any structure analogous to the claimed "deep well." Referring to exemplary Fig. 5B of Ker '715, P-well 32 is directly adjacent to the P-substrate 30, with no isolating deep well therebetween. Ker '715 thus cannot provide the above-highlighted advantages of the claimed deep well.

For at least this reason, amended claims 1 and 26 are believed to be patentable over Ker '715.

2. Patentability of independent claim 1 over Koomen et al.

Amended claim 1 recites, in part, the following limitations:

a deep well formed in the substrate that physically isolates the substrate from at least the second well...wherein the deep well does not form a terminal of a transistor

Amended claim 1 is believed to be patentable for at least the same reasons as given above with respect to Ker '715. Furthermore, even if the collector 27 in Fig. 2 of Koomen et al. is presumed to be a deep well formed in Koomen's substrate 9 that isolates the substrate 9 from at least the base 26 (alleged to be the claimed "second well"), the collector 27 by definition forms a terminal of a transistor (a transistor consists of three terminals, namely, a source, a gate and a drain or collector). Thus, the collector 27 in Koomen et al. cannot read on the claimed "deep well" because the claimed "deep well" cannot form a terminal of a transistor.

3. Patentability of dependent claims

The rejected dependent claims are believed to be patentable over Ker '715 and Koomen et al. for at least the reason that they are dependent upon allowable base claims and because they recite additional patentable elements and steps. Beigel et al. does not make up for any of the above-noted deficiencies in Ker '715 or Koomen et al.

Allowable Subject Matter

1. Claims 16 and 19 were rewritten to correct the minor errors as set forth above and are now in condition for allowability.

2. Claims 17-22 and 25 are dependent on claim 15 that is dependent on claim 1, in which claim 1 is now believed to be patentable over Ker '715 for at least the reasons discussed above, and thus making claims 17-22 and 25 allowable.

3. Claims 23 and 24 are dependent on claim 16, which is allowable after correcting minor errors as described above, and thus making claims 23 and 24 allowable.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application including all pending claims is in condition for allowance. A Notice of Allowability of all pending claims is therefore earnestly solicited.

Application No. 10/727,550
Reply to Office Action of March 17, 2006

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June 15, 2006
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